

impact, price, price against comparator, and innovation. The results in the two disease areas were separately analyzed and then compared with each other qualitatively on the basis depth of the responses. **RESULTS:** Awareness about the evidence expectations were seen to vary substantially between the disease areas. Payers were seen to be far more conscious in the high-burden disease area. Of the 12 stakeholders interviewed for the high-burden disease area (cardiovascular disease used as an example), all of them could provide an in-depth understanding of the value drivers for a new drug. On the other hand, of the stakeholders interviewed from a low-burden disease area within urology, a very small part of the sample ($n = 2$) was able to provide details about necessary expectations for the indication. **CONCLUSIONS:** The variation in awareness among payers in disease areas tends to affect the clinical outcomes that are presented by the drug manufacturer for a novel drug for the indication. The low awareness regarding evidence expectations in disease areas with low budgetary impact may lead to lower quality of evidence being accepted for reimbursement. This needs to be further investigated.

PHP22

THE USE OF ECONOMIC EVALUATIONS IN DECISION-MAKING AT MACRO LEVEL: A LITERATURE REVIEW

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OBJECTIVES: The number of economic-evaluations (EE) increases but their role in decision-making remains unclear. Our literature review of the use of EE in decision-making at macro-level aimed to analyze the methods presented in the articles and to investigate differences within and between countries regarding the use of EE, its facilitators and barriers. **METHODS:** We searched major databases (PubMed, Web-of-Science, Euronheed, EconLit) in seven languages, without time limit, using keywords related to economics, health care policy decision-making, and outcomes research. Abstracts were screened according to four criteria reflecting the objectives of our review. Selected articles were analyzed and compared using a checklist of items related to study context (period, location, domain . . .), methods (population, design . . .), and outcomes (use of EE, facilitators, barriers . . .). **RESULTS:** Twenty-nine articles were selected. Most reported single-country- (24), mainly developed-country-studies (20). Five multi-country-studies compared countries of Europe, the USA and Latin-America. The studies' population generally included public or private health authorities and used questionnaires (10), interviews (6), focus-groups (1), observations (4) or a combination of interviews and other methods (8). The main facilitator to using EE in decision-making was governmental/institutional incentives (UK and Australia). Although the use of EE has increased since the late 1990s, barriers remain, without apparent variation, overtime and between countries. Most relate to the accessibility and acceptability of EE. **CONCLUSIONS:** Decision-makers are increasingly aware of the importance of using EE in their practice. Despite large differences in the level of EE use between countries, barriers are very similar. Studying these barriers could narrow gaps between researchers and decision-makers and encourage governmental incentives to using EE. Consequently, we decided to develop a methodology for assessing the use of EE in radiotherapy decision-making, a domain where many EE have been undertaken, without actually investigating their use. This study will be conducted in France, and in European or developing-countries.

PODIUM SESSION III: MAPPING SCORE FROM ONE QOL MEASUREMENT INTO ANOTHER

MAI

HOW TO HANDLE THE MAPPING PROBLEM IN COST-UTILITY ANALYSES?

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OBJECTIVES: In cost-utility analyses (CUA), utility values are rarely available for the entire patients sample and they are generally predicted using a "mapping" interpolation from a functional status questionnaire, known for the entire sample. This mapping method is not accounted for in pharmaceutical industry and in literature studies, when building confidence regions around the utility and the incremental cost-utility ratio, leading to a wrong confidence region and consequently, to a wrong decision-making. The purpose of this paper is to build a confidence interval (CI) around the mean utility, accounting for the uncertainty coming from the "mapping" interpolation. **METHODS:** Analytical and bootstrap methods are developed to handle the fact that values are interpolated. Linear, multilinear, and nonlinear mapping are considered. Monte Carlo experiments are carried out to compare the performance of these methods. These methodologies are applied on data issued from an observational study dealing with prostate cancer treatment. Utility is assessed with Standard Gamble method and some of these values are interpolated from the questionnaires: EORTC QLQ-C30; IPSS and IIEF-5; SF-36 and Visual Analogic Scales. **RESULTS:** Monte Carlo experiments show that the analytic and bootstrap 95% CI display coverage between 94% and 96% for various sample sizes. If mapping is not accounted for ("naïve method"), the coverage is between 20% and 40%. The cross validation shows similar results. From prostatectomy data, the utility is explained by SF-36, role functioning, diarrhea, and age. For instance, mean utility equals 0.94. The analytic and

bootstrap CIs equal [0.59, 1.51] and [0.51, 1.63] respectively. The naïve interval equals [0.95, 1.15]. **CONCLUSIONS:** In CUA, decision-making based on utility values interpolated from mapping is not reliable: a naïve interval would lead to a serious mistake. The uncertainty due to mapping has to be accounted for. Our analytic and bootstrap procedures, integrating the mapping, provide very accurate results.

MA2

ESTIMATING THE ASSOCIATION BETWEEN SF-12 RESPONSES TO EQ-5D UTILITY VALUES USING A RESPONSE MAPPING AND A PARAMETER UNCERTAINTY APPROACH

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BACKGROUND: Two types of mapping exercises have been suggested to translate data from the short-form health instrument SF-12 into measurements for the EQ-5D instrument. One of the trends associates SF-12 data directly to the EQ-5D index, whereas a second approach suggests a response mapping method where SF-12 data have been mapped to the five domains of the EQ-5D questionnaire. **OBJECTIVES:** To improve the current response mapping approach and provide a comparison between the direct and the response mapping approaches to the EQ-5D. **METHODS:** Five multinomial logit regressions were implemented to estimate the association between SF-12 variables and each of the EQ-5D domains. Predicted EQ-5D responses were estimated using a Monte Carlo method. a parameter uncertainty approach was introduced to calculate confidence intervals for the predicted EQ-5D index. The direct mapping approach for the comparison was also conducted. Several large data sets were used for internal and external validation. Actual versus predicted EQ-5D index were compared using mean square error (MSE), mean absolute error (MAE), and confidence intervals. **RESULTS:** In the internal validation data set, both the response and direct mapping predicted a similar mean EQ-5D index, but the response mapping yielded a smaller MSE of 0.018 compared to 0.020 in the direct mapping, and a smaller MAE of 0.091 in the response mapping compared with 0.105 in the direct mapping method. Using the external validation data set, the MSE and MAE were one decimal point less in the response compared to the direct mapping. **CONCLUSIONS:** The revised response approach provided marginally better results than the direct mapping method. The response method can be implemented to country-specific EQ-5D data with available value sets. To facilitate the implementation of the revised response mapping algorithm, a Stata command has been programmed.

MA3

GLAUCOMA DISEASE PROGRESSION STATES: ESTABLISHING A DIRECT, QUANTITATIVE LINK BETWEEN VISUAL FIELD DEFECTS AND UTILITY LOSS

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OBJECTIVES: Treatments of ocular hypertension (OHT) and glaucoma aim mainly at maintaining the patient's visual function and related quality of life (QoL). However, it is not known to what extent the disease progression impacts the health-related QoL. Using recent publications, the objectives were to 1) derive a range of EQ-5D utility scores in OHT/glaucoma patients; 2) establish a direct, quantitative link between the mean defect in perimetry (MD) measured in decibels (db) and the utility loss; and 3) estimate the utility level of patients reaching a glaucoma stage. **METHODS:** The glaucoma stages were characterized using MD thresholds of 0 db (OHT), 0–6 db (early glaucoma), 6–12 db (moderate), 12–22 db (advanced), and >22 db (legal blindness), as per the Hodapp classification. An algorithm allowing to derive EQ-5D utility scores from the eight mean subscale scores to the SF-36 (Ara and Brazier 2008) was applied to the range of SF-36 scores published in a systematic review of QoL in glaucoma (Mills 2009). Besides, the same algorithm was used to estimate the utility loss corresponding to a MD of 1 db, based on a regression model assessing the correlation between visual function and QoL in glaucoma patients (Lin and Yang 2010). **RESULTS:** Over eight studies in OHT/glaucoma patients, utility scores ranged from 0.65 to 0.89. Based on a significant regression coefficient for the SF-36 Role Physical subscale, a utility loss of 0.0295/db was calculated. Applying this utility loss/db to the predefined thresholds, the ranges of unadjusted utility scores expected per glaucoma stage equal: 0.72–0.90 (early), 0.55–72 (moderate), 0.25–0.55 (advanced), and <0.25 (blindness), assuming a baseline utility of 0.90 for OHT. **CONCLUSIONS:** These utility scores per disease stage are consistent with published direct measures of HUI3. The estimated utility loss per db is sizeable and could be implemented in cost-utility models where disease progression is tracked.

MA4

ANCHOR-BASED DETERMINATION OF THE MINIMAL IMPORTANT DIFFERENCE OF A PRO SCALE—A CRITICAL LOOK ON A WIDELY USED METHOD BY MEANS OF A SIMULATION STUDY

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OBJECTIVES: Anchor-based methods are frequently used for determining the minimal important difference (MID) of scales employed to measure patient-reported outcomes (PRO). The anchor may, e.g., consist of a global rating by the patient or the doctor or of a clinical measure closely related to the issue to be measured. The role of the psychometrical properties of the anchor has been rarely studied in this context. Aim of this contribution is to shed more light on the relationship between